Space Weather Forecast

Issued on Thursday, 10 November 2022 at 01:24 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Chance of isolated Moderate class flares (R1-R2/ Minor to Moderate radio blackouts).

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Solar activity has been Low, with only one significant Common-class flare from a simple region just inside the northeast quadrant, close to centre disc. The most significant region is further to the east inside the northeast quadrant and is a complex bi-polar region, which continues to develop, but which is also relatively inactive. There are five remaining spots, all of which are small, weak or fading. No Earth-directed Coronal Mass Ejections (CMEs) have been observed on available imagery.

Solar Wind / Geomagnetic Activity: The solar wind has been at background levels throughout the period with a declining trend. Total magnetic field strength, IMF, has been predominantly weak. The important north-south component, was weakly negative at first, but has slowly become weakly positive. Geomagnetic activity was Quiet to Unsettled (Kp 0-3).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background levels with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary
Solar Activity: Solar activity is forecast to be Low or Very Low, with an increasing chance of isolated Moderate activity, due to the development of regions on the visible disc and returning regions rotating onto the disc from the far side of the Sun.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are forecast for the next four days. Solar wind speeds are expected to be mainly at background, with a low risk of connection to a fast wind, most likely on 10 or 11 November. Geomagnetic activity is expected to be mainly Quiet to Unsettled, but with a slight chance of Active or G1/Minor Storms on 10 or 11 November, should the Earth connect with a further fast wind.

Energetic Particles / Solar Radiation: The count rate of energetic particles (High energy protons) is forecast to persist at background with no solar radiation storms anticipated.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	5	5	5
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	20	25	30	30
Very Active	R3 to R5 X	No	5	5	5	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	5	5
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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